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ADVANCES IN THE STUDY OF THE SPIDER FAUNA (ARANEI) OF RUSSIA AND ADJACENT REGIONS: A 2015 UPDATE

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Advances in the Study of the Spider Fauna (Aranei) of Russia and Adjacent Regions: a 2015 update. Mikhailov, K. G. — Recent (2015) calculations of spider species richness in the boundaries of Russia and other former Soviet Union countries, as well as between physiographical regions of these territories, are provided in comparison with earlier data. By December 31st, 2015, 3,374 and 2,397 spider species have been reported from the FSU territories and Russia, respectively.

Key words: Aranei, diversity, spiders, physiographical regions, fauna, catalogue.

Introduction

This paper, being the result of long-term research, contributes to global biodiversity studies. The spider fauna of the USSR territory (in the borders before 1939) was reviewed in detail by D. E. Kharitonov (Charitonov, 1932; Kharitonov, 1936) in his annotated catalogue of spiders covering 1,068 species or 38 subspecies and varieties from 29 families in the basic 1932 version. This work was revived only in 1981 in the framework of a comprehensive study of animal and plant diversity undertaken by the Academy of Sciences of the former USSR. The aim of the entire project is to compile and critically assess all available literature sources on spiders of Russia and other republics of the former Soviet Union (= FSU) since the 18th century. On the contrary to sources on spider taxonomy collected in World Spider Catalog (WSC, 2016), faunistic papers in this field have not been reviewed worldwide generally since 1939. Separate annotated spider catalogues are provided for most European and some Asian countries, but not for FSU countries, the latter despite of the considerable number of sources, mostly in Russian. At present, publication of all available data remains impossible because of a too large amount of information likely to run to several volumes of printed text. To date, only a checklist of the spiders of the former USSR together with a bibliographical index covering all literature sources has been published by Mikhailov (1997), followed by several addenda (Mikhailov, 2013 b).

Methods

This paper aims at providing the most recent calculations (as of December 31st, 2015) of spider species diversity on the FSU territories in order to demonstrate changes in our current knowledge. Earlier calculations have been published in a number of publications (Mikhailov, 1992, 1997, 2002, 2012 b, 2013 a, etc). An updated and the most complete bibliographical list appeared separately (Mikhailov, 2012 a), with 3,560 references. To avoid re-counting the number of species with changing state borders, the boundaries of the post-Soviet countries are accepted here as of 1992.

Only published literature data on spider records are used in this project. More than 4,000 sources were entered the basic card catalogue. A lot of data are scattered in local university books and transactions, collective papers, as well as conference proceedings; such a search needs special efforts in visiting various libraries and contacting numerous colleagues. Among the well-known specialized scientific periodicals, most of the contributions to Russian/Soviet arachnology were published in "Zoologichesky Zhurnal" (before 1992), followed since 1992 by "Arthropoda Selecta". Over the last decade, numerous data appeared also in "Zootaxa" and "ZooKeys".

Volume of spider families is followed to WSC (2016), with two exceptions (see below).

Results and discussion

A new, updated version of the checklist is compiled. Until now, 3,374 spider species from 53 of the 114 recent families in the world fauna are reported from the FSU territories (table 1, Appendix 1). Compared to the 2013 checklist, the Clubionidae is split into the Clubionidae and the Cheiracanthiidae, while the Corinnidae into the Corinnidae, the Phrurolithidae and the Trachelidae. Slight differences in family names and scope as compared to the WSC (2016) are kept in the current checklist. The Argyronetidae is used instead of the Cybaeidae, while the Cheracanthiidae is listed separately from the Eutichuridae, and the Zoridae is considered beyond the Miturgidae and retains its earlier scope, all as in Marusik, Kovblyuk (2011).

Comparing the species diversity of the FSU and world spider faunas (table 1) shows the first place in the FSU taken by Linyphiidae, not Salticidae. The family Linyphiidae is most diverse in the boreal and temporal belts, whereas Salticidae in tropical and

Table 1. Spider species diversity in the ex-USSR in comparison with the world, by families

Family	World	Ex-USSR	Family	World	Ex-USSR
Linyphiidae	4533 (9.88)*	997 (29.55)	Mimetidae	152 (0.33)	9 (0.27)
Gnaphosidae	2180 (4.75)	378 (11.20)	Zoridae	–	8 (0.24)
Lycosidae	2403 (5.24)	357 (10.58)	Oecobiidae	110 (0.24)	7 (0.21)
Salticidae	5851 (12.75)	345 (10.23)	Sparassidae	1207 (2.63)	7 (0.21)
Thomisidae	2153 (4.69)	183 (5.42)	Hersiliidae	179 (0.39)	6 (0.18)
Theridiidae	2462 (5.37)	173 (5.13)	Trachelidae	209 (0.46)	6 (0.18)
Araneidae	3109 (6.78)	127 (3.76)	Uloboridae	279 (0.61)	6 (0.18)
Philodromidae	539 (1.17)	93 (2.76)	Anyphaenidae	542 (1.18)	5 (0.15)
Clubionidae	598 (1.30)	92 (2.73)	Atypidae	51 (0.11)	5 (0.15)
Dysderidae	534 (1.16)	91 (2.70)	Eresidae	97 (0.21)	5 (0.15)
Agelenidae	1187 (2.59)	81 (2.40)	Oonopidae	1613 (3.52)	5 (0.15)
Dictynidae	577 (1.26)	76 (2.25)	Scytodidae	232 (0.51)	5 (0.15)
Tetragnathidae	981 (2.14)	40 (1.19)	Segestriidae	120 (0.26)	4 (0.12)
Zodariidae	1107 (2.41)	28 (0.83)	Ctenizidae	130 (0.28)	3 (0.09)
Liocranidae	270 (0.59)	27 (0.80)	Zoropsidae	177 (0.39)	3 (0.09)
Hahniidae	249 (0.54)	23 (0.68)	Dipluridae	188 (0.41)	2 (0.06)
Pholcidae	1470 (3.20)	22 (0.65)	Mysmenidae	137 (0.30)	2 (0.06)
Cheiracanthiidae	343 (0.75)	21 (0.62)	Palpimanidae	139 (0.30)	2 (0.06)
Titanoecidae	53 (0.12)	20 (0.59)	Prodidomidae	309 (0.67)	2 (0.06)
Argyronetidae	179 (0.39)	15 (0.44)	Synaphridae	13 (0.03)	2 (0.06)
Nesticidae	228 (0.50)	15 (0.44)	Theridiosomatidae	109 (0.24)	2 (0.06)
Nemesiidae	393 (0.86)	13 (0.39)	Cithaeronidae	8 (0.02)	1 (0.03)
Amaurobiidae	287 (0.63)	12 (0.36)	Corinnidae	729 (1.59)	1 (0.03)
Pisauridae	335 (0.73)	12 (0.36)	Ctenidae	503 (1.10)	1 (0.03)
Phrurolithidae	197 (0.43)	12 (0.36)	Leptonetidae	279 (0.61)	1 (0.03)
Filistatidae	123 (0.27)	11 (0.33)	Sicariidae	139 (0.30)	1 (0.03)
Oxyopidae	454 (0.99)	9 (0.27)	Totally, species	45 884	3374
Totally 53 families					

* Percentage figures are given in parentheses.

Note. World spider fauna, after WSC (2016), only families found in the FSU are entered. Argyronetidae as Cybaeidae in the WSC; Cheiracanthiidae and Zoridae are not discarded as missing as separate families in the WSC, counted in Euthichuridae and Miturgidae, respectively.

subtropical areas; of the two latter, the tropics are totally absent from the FSU, while the subtropics are represented only marginally. The shares of larger families, each comprising thousands of species, such as Gnaphosidae, Lycosidae and Thomisidae, are higher in the FSU than globally. As regards the other large families, i. e., Araneidae, Tetragnathidae and, especially, Oonopidae, Pholcidae, Sparassidae and Zodariidae, the four latter being particularly diverse in the tropics, the situation is *vice versa*. In Agelenidae, the respective proportions of species richness in the FSU and world spider faunas are almost equal. Concerning the medium-sized families with hundreds of species each, the situation is controversial. Clubionidae, Dictynidae, Dysderidae, Hahniidae, Liocranidae, and Philodromidae are better represented in the FSU than in the world. On the contrary, Amaurobiidae, Anyphaenidae, Ctenidae, Dipluridae, Leptonetidae, Nemesiidae, Oxyopidae, Palpimanidae, Phrurolithidae, Pisauridae, Prodidomidae, Scytodidae, Sicariidae, Theridiosomatidae, Trachelidae, Uloboridae and Zoropsidae are more diverse in the world than in the FSU. The most drastic situation is in Corinnidae (accepted in the current checklist, contrary to the 2013 one, in the WSC scope): one species in the FSU, as opposed to 729 species globally. In Argyronetidae, Filistatidae, Mimetidae and Oecobiidae, the respective shares are close to one another. Similar considerations are applicable to small-size families represented by dozens of species each. Remarkably, not all spider families are more diverse in tropical areas, being richer in species also in North America, as Anyphaenidae and Oxyopidae.

Linyphiidae show the highest diversity in the FSU (table 2), almost 1,000 species! Lycosidae, Gnaphosidae and Salticidae are the next three groups to follow, their places having changed in 1989–2011. The second-rich Salticidae in 1989 and 2000 shifted to the third place in 1996, 2009 and 2011. Gnaphosidae were the fourth in 1989 and the third in 2000. Since the 1989 evaluation, the main increase in species numbers has been documented for Linyphiidae (+343 species), followed by Gnaphosidae (+172), Lycosidae (+147), Salticidae (+134) and Theridiidae (+57) (table 2). Altogether, the increase in species richness was 510 during 1989–1995, or approximately 73 species annually. In 1996–2000, these figures were

Table 2. Species diversity of the main spider families in the territory of the former USSR

Family	Species number (percentage)						
	1989	1996	2000	2009	2011	2013	2015
Linyphiidae	654 (29.95)*	850 (31.55)	873 (30.88)	979 (30.13)	979 (29.70)	986 (29.52)	997 (29.55)
Gnaphosidae	206 (9.43)	286 (10.62)	294 (10.40)	357 (10.99)	367(11.13)	375 (11.23)	378 (11.20)
Lycosidae	210 (9.62)	247 (9.17)	263 (9.30)	319 (9.82)	333(10.10)	351 (10.51)	357 (10.58)
Salticidae	211 (9.66)	266 (9.87)	307 (13.19)	338 (10.40)	340(10.32)	340 (10.18)	345 (10.23)
Thomisidae	146 (6.68)	164 (6.09)	168 (5.94)	177 (5.45)	179(5.44)	181 (5.42)	183 (5.42)
Theridiidae	116 (5.31)	125 (4.64)	132 (4.67)	167 (5.14)	168(5.10)	172 (5.15)	173 (5.13)
Araneidae	114 (5.22)	108 (4.01)	113 (4.00)	128 (3.94)	128(3.88)	128 (3.83)	127 (3.76)
Philodromidae	61 (2.79)	73 (2.71)	74 (2.62)	92 (2.83)	94(2.85)	93 (2.78)	93 (2.76)
Dysderidae	51 (2.34)	90 (3.34)	91 (3.22)	90 (2.77)	90(2.73)	90 (2.69)	91 (2.70)
Agelenidae	44 (2.01)	45 (1.67)	54 (1.91)	80 (2.46)	81(2.46)	82 (2.46)	81 (2.40)
Dictynidae	49 (2.24)	53 (1.97)	59 (2.09)	71 (2.19)	73(2.21)	73 (2.19)	76 (2.25)
Others	322	387	399	451	464	469	473
TOTAL	2,184	2,694	2,827	3,249	3,296	3,340	3,374

* Percentage figures are given in parentheses.

Note. Clubionidae is not included into the count, due to change of the species composition in this family between 2011 and 2015.

Table 3. Species composition in the FSU and post-Soviet republics, data for 1989, 1996, 2000, 2008, 2009, 2011, 2013 and 2015, the latter indexed by the respective area sizes

Region	Area, sq. km x 10^3	1989	1996	2000	2008	2009	2011	2013	2015	2015, in comparison with 1996	Species per area, x 10^3, 2015
Ex-USSR	22 400	2184	2694	2827	3213	3249	3296	3340	3374	+680	150.63
Russia	17075.4		1874	1974	2260	2297	2339	2366	2397	+523	140.38
Estonia	45.1		506	509	505	507	511	511	511	+5	11330.38
Latvia	64.5		401	402	414	415	419	419	465	+64	7209.30
Lithuania	65.2		241	271	385	392	445	445	443	+202	6794.48
Belarus	207.6		383	412	418	421	424	431	447	+64	2153.18
Ukraine	603.7		808	830	936	958	996	1008	1016	+208	1682.96
Moldova	33.7		291	292	292	292	292	292	292	+1	8664.69
Georgia	69.7		326	456	463	467	518	520	581	+255	8335.72
Azerbaijan	86.6		500	559	642	644	657	663	669	+169	7725.17
Armenia	29.8		118	127	134	135	136	136	141	+23	4731.54
Kazakhstan	2717.3		679	719	819	847	879	966	996	+317	366.54
Uzbekistan	447.7		290	309	320	321	330	331	334	+44	746.04
Turkmenistan	488.1		353	377	387	387	391	394	394	+41	807.21
Kyrgyzstan	198.5		358	464	474	476	477	479	479	+121	2413.10
Tajikistan	143.1		293	310	316	317	318	318	322	+29	2250.17

130 and 33, respectively, in 2001–2011, 469 and 43, in 2012–2015, 78 and 19.5. In several families, a great increase in species diversity was reported for 1989–1996: +196 species in Linyphiidae (due to the activities of K. Yu. Eskov, A. V. Tanasevitch and Yu. M. Marusik), +80 species in Gnaphosidae (due to Yu. M. Marusik, V. I. Ovtsharenko and D. V. Logunov), +49 species in Dysderidae (due to the late P. M. Dunin). D. V. Logunov is also responsible for a large number of Salticidae recorded in 1989–2009, +127 species. A second saltation in Linyphiidae is recorded in 2000–2009 (+106 species, due to A. V. Tanasevitch, Yu. M. Marusik and V. A. Gnelitsa).

An analysis of the spider fauna of the post-Soviet (table 3) countries reveals almost the same relations as earlier: Russia supports the highest diversity (2,397 species), followed by Ukraine (1,016), Kazakhstan (996) and Azerbaijan (669). The spider faunas of Moldova and Armenia show no large increase in species number, being not yet sufficiently studied, apparently due to the absence of local arachnologists. A different situation is observed in Estonia (+5 species only), one of the best arachnologically studied republics, due to the activity of A. Vilbaste in 1960 to the 1980's. In Lithuania, a lot of species have been added between 2000 and 2011, revealing its spider fauna being similar to that of Latvia both in species number and composition; in Latvia, such an increase was found between 2013 and 2015. In 1996–2015, the main increase in species richness is due to Russia (+523 species), Kazakhstan (+317), Georgia (+255), Ukraine (+208), Lithuania (+202) and Azerbaijan (+169). The most considerable contributions to the knowledge of Kazakhstan and Georgian spiders were made by visiting arachnologists.

No correlation is found between spider species diversity and area size (table 3). In general, larger areas like Russia and Kazakhstan support lesser spider species diversities. Moderate richness levels are reported also in Uzbekistan and Turkmenistan, both dominated by desert environments. Mountain areas like Georgia and Azerbaijan could be considered as being richer in spider species per area unit, but they are actually comparable in this index with poorly-studied Moldova.

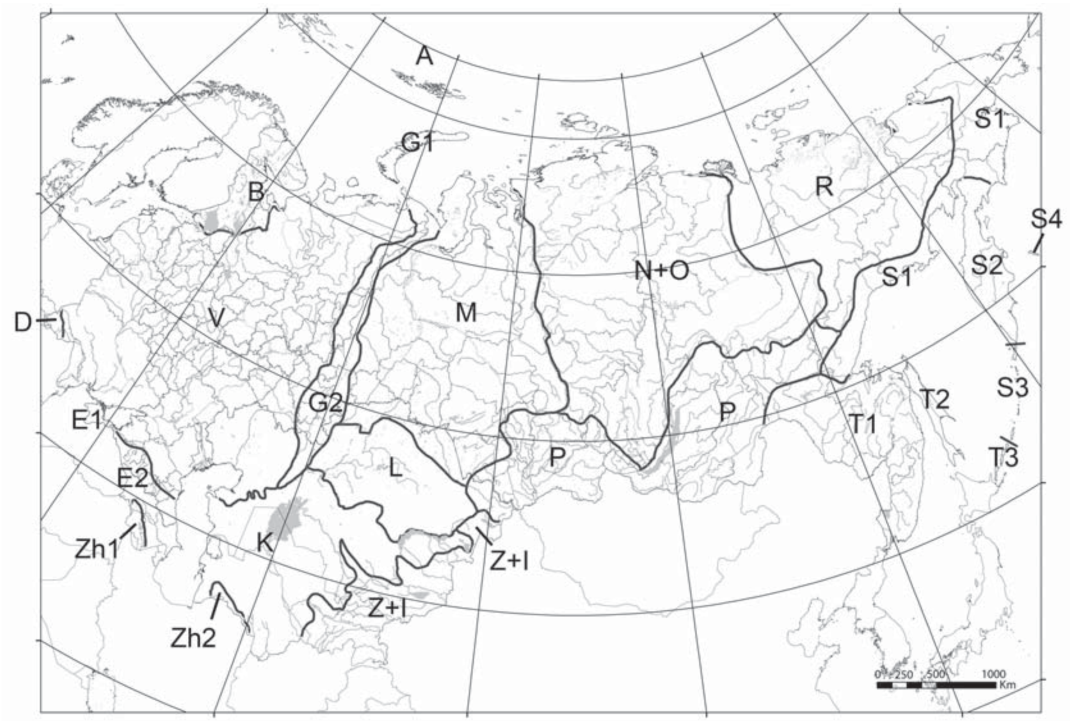


Fig. 1. Physiographical regions of the FSU after Gvozdetsky [1968]: **A** — Atlantic-Arctic area, **B** — Fennoscandia, **V** — Russian Plain, **G1** — Novaya Zemlya, **G2** — Urals, **D** — Carpathians, **E1** — Crimea, **E2** — Caucasus, **Zh1** — Armenian Upland, **Zh2** — Kopet Dagh Mts, **Z+I** — Mountains of Middle (= Central) Asia, **K** — Deserts of Middle (= Central) Asia, **L** — Kazakhstan hills, **M** — West Siberia, **N+O** — Middle Siberia, **P** — Mountains of South Siberia, **R** — Northeastern Siberia, **S1** — Continental Far North-East, **S2** — Kamchatka, **S3** — N-Kuriles, **S4** — Commander Islands, **T1** — Continental southern Far East, **T2** — Sakhalin, **T3** — S-Kuriles. English capital letters correspond to the Russian ones given in Gvozdetsky's book.

Physiographical regions of the FSU territory are here accepted after Gvozdetsky (1968) (fig. 1). The main increase during 1996–2015 concerns the Russian Plain (V, +380 species), Continental Southern Far East (T1, +363 species), West Siberia (M, +275 species), the Caucasus (E2, +274 species), the mountains of South Siberia (P, +232 species), the Crimea (E1, +227 species) (table 4). Moderate increases in Middle Siberia (N+O), Continental Far North-East (S1) and Sakhalin Island (T2) are explained by earlier (the 1980's to early 1990's for T2) activities of K. Yu. Eskov, Yu. M. Marusik, and both of them, respectively. It is noteworthy that in the continental southern Far East (Russia), crucial studies have mostly been performed by visiting arachnologists, while in the Crimea (Ukraine) by local specialists. Earlier, during 1989–1996, the main progress was made in the mountains of South Siberia (P, +377 species, due to D. V. Logunov, Yu. M. Marusik and S. N. Danilov), West Siberia (M, +197 species, due to S. L. Esyunin and others) and Northeastern Siberia (R, +118 species, the activities of Yu. M. Marusik).

The shares of the main spider families are shown in Appendix 2. The regions such as the Armenian Upland and Kazakhstan Hills are not discussed due to their too poorly-known spider faunas. In the boreal areas ranging from Fennoscandia to Sakhalin Island, Linyphiidae predominate, with their proportion varying from 39 (Urals) to 59 % (Continental Far North-East). The share of Salticidae is high in Middle Asia (17–25 %), especially in the desert zone, being considerably less in boreal areas (5–10 % and even 2 % in Kamchatka). The proportion of Gnaphosidae varies from 4 to 15 %, being especially low in the Carpathians (5 %), the maritime regions of the Russian Far East (4–6 %), but

Table 4. Species composition in the FSU physiographical areas, data for 1989, 1996, 2000, 2008, 2009, 2011, 2013 and 2015

Regions	1989	1996	2000	2008	2009	2011	2013	2015	2015, in comparison with 1989	2015, in comparison with 1996
A	1	1	2	2	2	2	2	2	+1	+1
B	385	429	516	532	534	554	557	568	+183 (47.53)*	+139 (+32.40)
V	936	1001	1026	1294	1314	1347	1362	1381	+445 (47.54)	+380 (37.96)
G1+G2	600									
G1		21	21	20	24	24	24	25		+4 (19.05)
G2		683	750	786	790	795	799	799		+116 (16.98)
D	435	421	428	459	485	536	537	543	+108 (24.83)	+122 (28.98)
E1	308	311	342	478	500	508	520	538	+230 (74.68)	+227 (72.99)
E2+Zh1	671									
E2		752	834	927	940	974	987	1026		+274 (36.44)
Zh1		127	135	228	231	233	233	241		+114 (89.76)
Zh2+Z+I	650									
Zh2		221	240	243	244	245	247	247		+26 (11.76)
Z+I		773	833	878	880	901	915	920		+147 (19.02)
K	291	318	338	352	360	368	401	419	+128 (43.99)	+101 (31.76)
L	103	129	143	160	160	171	172	209	+106 (102.91)	+80 (62.02)
M	243	440	554	602	652	655	664	715	+472 (194.24)	+275 (62.50)
N+O	532	624	634	667	666	669	669	674	+142 (26.69)	+50 (8.01)
P	436	813	912	1002	1015	1017	1022	1045	+609 (139.68)	+232 (28.54)
R	277	395	397	408	408	410	410	410	+133 (48.01)	+15 (3.80)
S1+S2+S3+S4	278									
S1		411	415	446	451	449	449	454		+43 (10.46)
S2		184	182	204	205	240	240	248		+64 (34.78)
S3		54	60	81	81	82	82	82		+28 (51.85)
S4		19	20	20	20	20	20	20		+1 (5.26)
T1+T2+T3	375									
T1		507	566	797	843	861	864	870		+363 (71.60%)
T2		343	338	361	361	362	363	362		+19 (5.54%)
T3		144	149	165	166	170	170	172		+28 (19.44%)

* Percentage figures are given in parentheses.

Note. Regions: **A** — Atlantic-Arctic area, **B** — Fennoscandia, **V** — Russian Plain, **G1** — Novaya Zemlya, **G2** — Urals, **D** — Carpathians, **E1** — Crimea, **E2** — Caucasus, **Zh1** — Armenian Upland, **Zh2** — Kopet Dagh Mts, **Z+I** — Mountains of Middle (= Central) Asia, **K** — Deserts of Middle (= Central) Asia, **L** — Kazakhstan hills, **M** — West Siberia, **N+O** — Middle Siberia, **P** — Mountains of South Siberia, **R** — Northeastern Siberia, **S1** — Continental Far North-East, **S2** —Kamchatka, **S3** — N-Kuriles, **S4** — Commander Islands, **T1** — Continental southern Far East, **T2** — Sakhalin, **T3** — S-Kuriles.

high enough in the Crimea and Middle Asia (12–15 %). Lycosidae are most diverse in the mountains of South Siberia (13 %), with the minimum (4–5 %) in such remote areas as Kopet Dagh Mountains and Sakhalin Island. In most regions, the proportion of Thomisidae varies from 4 to 8 %, being extremely high (11 %) in Kopet Dagh Mountains and extremely low (3 %) in the continental Far North-East. The shares of Theridiidae, Araneidae and Philodromidae in different regions are 4–9, 4–8 and 3–5 %, respectively. Clubionidae are the most species-rich in the southern part of the Russian Far East (6–9 %), as opposed to 1–4 % or less in other regions. Dysderidae are sufficiently well represented only in the Caucasus (5 %). Agelenidae, Dictynidae and Tetragnathidae scarcely reach 3–4 % in any individual region.

The data provided herein are difficult to compare with the adjacent regions such as West and Central Europe, China or Japan. The recent country calculations are only available for Europe (Helsdingen, 2015), also with data on European Russia and Ukraine. For example, Poland, which is 312.7 10^3 km^2 in area, supports 826 spider species. This is comparable with 1,016 species in Ukraine, but the number of species per area differs considerably, being 2,641.51 in Poland and 1,682.96 in Ukraine. A total of 2,361 spider species were registered in the whole territory of China earlier (Song et al., 1999); 3,714 species in 2013 (Shuqiang Li, pers. comm.), and currently 4,282 species (Li, Lin, 2016). To date, 1,574 species are known from Japan (A. Tanikawa, pers. comm., 2013).

Earlier estimates of the total FSU spider fauna first amounted to 2,700–3,000 species (Mikhailov, 1992), later to 3,400–3,500 species (Mikhailov, 1997). The last forecast, with the total spider diversity of the FSU being likely to be 3,700–3,800 species, and that of Russia 2,500–2,600 species (Mikhailov, 2013 a), is supported in this paper. Faunistic studies of the spiders of Russia and the FSU are yet far from complete.

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Appendix 1. Spider families in the ex-USSR and post-Soviet republics in comparison with the world fauna

Family	World	USSR	RF	Est	Latv	Lith	Byel	Ukr	Mold	Gr	Az	Arm	Kaz	Uzb	Turk	Kyrg	Taj
Linyphiidae	4533 (9.88)*	997 (29.55)	855 (35.67)	202 (39.53)	173 (37.20)	149 (33.63)	158 (35.35)	284 (27.95)	57 (19.52)	106 (18.24)	92 (13.75)	37 (26.24)	172 (17.27)	27 (8.08)	34 (8.63)	100 (20.88)	27 (8.39)
Gnaphosidae	2180 (4.75)	378 (11.20)	245 (10.22)	33 (6.46)	35 (7.53)	39 (8.80)	27 (6.04)	111 (10.93)	20 (6.85)	42 (7.23)	75 (11.21)	10 (7.09)	156 (15.66)	34 (10.12)	54 (13.71)	52 (10.86)	37 (11.49)
Lycosidae	2403 (5.24)	357 (10.58)	255 (10.64)	47 (9.20)	48 (10.32)	43 (9.71)	48 (10.74)	84 (8.27)	32 (10.96)	61 (10.50)	59 (8.82)	6 (4.26)	104 (10.44)	32 (9.58)	26 (6.60)	24 (5.01)	32 (9.94)
Salticidae	5851 (12.75)	345 (10.23)	198 (8.26)	35 (6.85)	35 (7.53)	37 (8.35)	35 (7.83)	90 (8.86)	21 (7.19)	53 (9.12)	88 (13.15)	24 (17.02)	156 (15.66)	64 (19.16)	94 (23.86)	87 (18.16)	64 (19.88)
Thomisidae	2153 (4.69)	183 (5.42)	128 (5.34)	23 (4.50)	21 (4.52)	24 (5.42)	26 (5.82)	55 (5.41)	31 (10.62)	50 (8.61)	52 (7.77)	11 (7.80)	74 (7.43)	34 (10.12)	31 (7.87)	37 (7.72)	31 (9.63)
Theridiidae	2462 (5.37)	173 (5.13)	134 (5.59)	26 (5.09)	35 (7.53)	31 (7.00)	34 (7.61)	76 (7.48)	23 (7.88)	50 (8.61)	63 (9.42)	3 (2.18)	67 (47.52)	18 (5.39)	16 (4.06)	30 (6.26)	20 (6.21)
Araneidae	3109 (6.78)	127 (3.76)	101 (4.21)	35 (6.85)	34 (7.31)	32 (7.22)	31 (6.94)	56 (5.51)	23 (7.88)	45 (7.75)	38 (5.68)	9 (6.38)	47 (4.72)	28 (8.38)	24 (6.09)	36 (7.52)	18 (5.59)
Philodromidae	539 (1.17)	93 (2.76)	72 (3.00)	13 (2.54)	14 (3.01)	13 (2.93)	12 (2.68)	33 (3.25)	8 (2.74)	16 (2.75)	23 (3.44)	7 (4.96)	45 (4.52)	17 (5.09)	14 (3.55)	14 (2.92)	14 (4.35)
Clubionidae	598 (1.30)	92 (2.73)	81 (3.38)	16 (3.13)	15 (3.23)	16 (3.61)	17 (3.80)	26 (2.56)	11 (3.77)	11 (1.89)	17 (2.54)	9 (6.38)	18 (1.81)	4 (1.20)	3 (0.76)	9 (1.88)	1 (0.31)
Dysderidae	534 (1.16)	91 (2.70)	19 (0.79)	0	0	1 (0.23)	0	16 (1.57)	7 (2.40)	33 (5.68)	28 (4.19)	10 (7.09)	5 (0.50)	4 (1.20)	11 (2.79)	5 (1.04)	7 (2.17)
Agelenidae	1187 (2.59)	81 (2.40)	33 (1.38)	4 (0.78)	3 (0.65)	5 (1.13)	5 (1.12)	28 (2.76)	9 (3.08)	16 (2.75)	27 (4.04)	0	14 (1.41)	8 (2.40)	4 (1.02)	19 (3.97)	6 (1.86)
Dictynidae	577 (1.26)	76 (2.25)	54 (2.25)	13 (2.54)	5 (1.08)	7 (1.58)	10 (2.24)	29 (2.85)	10 (3.42)	8 (1.38)	17 (2.54)	4 (2.84)	25 (2.51)	5 (1.50)	8 (2.03)	10 (2.09)	9 (2.80)
Tetragnathidae	981 (2.14)	40 (1.19)	35 (1.46)	13 (2.54)	14 (3.01)	12 (2.71)	12 (2.68)	17 (1.67)	8 (2.74)	14 (2.41)	13 (1.94)	1 (0.71)	14 (1.41)	4 (1.20)	3 (0.76)	10 (2.09)	2 (0.62)
Zodariidae	1107 (2.41)	28 (0.83)	5 (0.21)	0	0	0	0	4 (0.39)	0	3 (0.52)	5 (0.75)	2 (1.42)	9 (0.90)	7 (2.10)	4 (1.02)	4 (0.84)	10 (3.11)
Liocranidae	270 (0.59)	27 (0.80)	19 (0.79)	8 (1.57)	7 (1.51)	8 (1.81)	5 (1.12)	13 (1.28)	1 (0.34)	2 (0.34)	1 (0.15)	0	7 (0.70)	2 (0.60)	3 (0.76)	3 (0.63)	0
Hahniidae	249 (0.54)	23 (0.68)	15 (0.63)	6 (1.17)	6 (1.29)	5 (1.13)	5 (1.12)	7 (0.69)	3 (1.03)	2 (0.34)	2 (0.30)	0	7 (0.70)	0	0	4 (0.84)	1 (0.31)
Pholcidae	1470 (3.20)	22 (0.65)	14 (0.58)	0	0	1 (0.23)	3 (0.67)	8 (0.79)	1 (0.34)	4 (0.69)	6 (0.90)	0	9 (0.90)	5 (1.50)	6 (1.52)	4 (0.84)	6 (1.86)
Cheiracanthiidae	–	21 (0.62)	18 (0.75)	4 (0.78)	4 (0.86)	3 (0.68)	2 (0.45)	10 (0.98)	6 (2.05)	6 (1.03)	7 (1.05)	1 (0.71)	9 (0.90)	7 (2.10)	3 (0.76)	3 (0.63)	5 (1.55)
Titanoecidae	53 (0.12)	20 (0.59)	15 (0.63)	0	0	0	2 (0.45)	7 (0.69)	2 (0.68)	2 (0.34)	5 (0.75)	0	10 (1.00)	0	4 (1.02)	3 (0.63)	1 (0.31)
Argyronetidae	179 (0.39)	15 (0.44)	7 (0.29)	1 (0.20)	1 (0.22)	1 (0.23)	1 (0.22)	2 (0.20)	1 (0.34)	2 (0.34)	2 (0.30)	1 (0.71)	2 (0.20)	2 (0.60)	4 (1.02)	1 (0.21)	1 (0.31)
Nesticidae	228 (0.50)	15 (0.44)	7 (0.29)	1 (0.20)	1 (0.22)	0	0	5 (0.49)	0	7 (1.20)	1 (0.15)	0	0	0	0	0	0
Nemesiidae	393 (0.86)	13 (0.39)	1 (0.04)	0	0	0	0	0	0	3 (0.52)	2 (0.30)	0	1 (0.10)	3 (0.90)	3 (0.76)	2 (0.42)	3 (0.93)
Amaurobiidae	287 (0.63)	12 (0.36)	9 (0.38)	1 (0.20)	0	1 (0.23)	1 (0.22)	6 (0.59)	2 (0.68)	4 (0.69)	4 (0.60)	0	4 (0.40)	0	0	0	0
Pisauridae	335 (0.73)	12 (0.36)	10 (0.42)	3 (0.59)	3 (0.65)	3 (0.68)	3 (0.67)	4 (0.39)	2 (0.68)	3 (0.52)	2 (0.30)	0	3 (0.30)	2 (0.60)	2 (0.51)	2 (0.42)	2 (0.62)
Phrurolithidae	197 (0.43)	12 (0.36)	9 (0.38)	2 (0.39)	1 (0.22)	2 (0.45)	1 (0.22)	4 (0.39)	1 (0.34)	3 (0.52)	3 (0.45)	1 (0.71)	3 (0.30)	1 (0.30)	2 (0.51)	2 (0.42)	1 (0.31)
Filistatidae	123 (0.27)	11 (0.33)	0	0	0	0	0	0	0	1 (0.17)	3 (0.45)	0	3 (0.30)	2 (0.60)	3 (0.76)	1 (0.21)	5 (1.55)
Oxyopidae	454 (0.99)	9 (0.27)	6 (0.25)	1 (0.20)	1 (0.22)	1 (0.23)	2 (0.45)	4 (0.39)	2 (0.68)	3 (0.52)	3 (0.45)	2 (1.42)	7 (0.70)	4 (1.20)	4 (1.02)	3 (0.63)	3 (0.93)
Mimetidae	152 (0.33)	9 (0.27)	8 (0.33)	3 (0.59)	1 (0.22)	2 (0.45)	1 (0.22)	6 (0.59)	1 (0.34)	3 (0.52)	2 (0.30)	0	3 (0.30)	0	2 (0.51)	1 (0.21)	1 (0.31)
Zoridae	–	8 (0.24)	7 (0.29)	4 (0.78)	4 (0.86)	3 (0.68)	2 (0.45)	7 (0.69)	0	4 (0.69)	3 (0.45)	1 (0.71)	2 (0.20)	1 (0.30)	2 (0.51)	2 (0.42)	0
Oecobiidae	110 (0.24)	7 (0.21)	1 (0.04)	1 (0.20)	1 (0.22)	0	0	0	0	1 (0.17)	6 (0.90)	0	3 (0.30)	0	2 (0.51)	0	2 (0.62)
Sparassidae	1207 (2.63)	7 (0.21)	3 (0.13)	1 (0.20)	1 (0.22)	1 (0.23)	1 (0.22)	2 (0.20)	1 (0.34)	2 (0.34)	1 (0.15)	0	2 (0.20)	2 (0.60)	5 (1.27)	2 (0.42)	2 (0.62)
Hersiliidae	179 (0.39)	6 (0.18)	0	0	0	0	0	0	0	0	0	0	3 (0.30)	4 (1.20)	4 (1.02)	1 (0.21)	1 (0.31)
Trachelidae	209 (0.46)	6 (0.18)	5 (0.21)	0	0	0	0	2 (0.20)	0	1 (0.17)	1 (0.15)	0	0	1 (0.30)	1 (0.25)	0	0

Continued appendix 1

Family	World	USSR	RF	Est	Latv	Lith	Byel	Ukr	Mold	Gr	Az	Arm	Kaz	Uzb	Turk	Kyrg	Taj
Uloboridae	279 (0.61)	6 (0.18)	5 (0.21)	1 (0.20)	1 (0.22)	1 (0.23)	0	3 (0.30)	2 (0.68)	5 (0.86)	5 (0.75)	0	2 (0.20)	1 (0.30)	2 (0.51)	1 (0.21)	1 (0.31)
Anyphaenidae	542 (1.18)	5 (0.15)	5 (0.21)	1 (0.20)	1 (0.22)	1	1 (0.22)	1 (0.10)	1 (0.34)	3 (0.52)	2 (0.30)	1 (0.71)	0	0	1 (0.25)	0	0
Atypidae	51 (0.11)	5 (0.15)	4 (0.17)	0	0	0	1 (0.22)	3 (0.30)	3 (1.03)	1 (0.17)	1 (0.15)	0	0	0	1 (0.25)	0	0
Eresidae	97 (0.21)	5 (0.15)	2	0	0	1 (0.23)	0	2 (0.20)	1 (0.34)	2 (0.34)	2 (0.30)	0	2 (0.20)	2 (0.60)	2 (0.51)	2 (0.42)	2 (0.62)
Oonopidae	1613 (3.52)	5 (0.15)	3 (0.13)	0	0	0	0	3 (0.30)	0	1 (0.17)	2 (0.30)	0	1 (0.10)	0	1 (0.25)	0	0
Scytodidae	232 (0.51)	5 (0.15)	1 (0.04)	0	0	0	0	1 (0.10)	1 (0.34)	1 (0.17)	2 (0.30)	1 (0.71)	1 (0.10)	1 (0.30)	3 (0.76)	2 (0.42)	2 (0.62)
Segestriidae	120 (0.26)	4 (0.12)	2 (0.08)	0	0	0	1 (0.22)	3 (0.30)	1 (0.34)	3 (0.52)	1 (0.15)	0	1 (0.10)	0	0	1 (0.21)	1 (0.31)
Ctenizidae	130 (0.28)	3 (0.09)	0	0	0	0	0	0	0	0	0	0	1 (0.10)	2 (0.60)	0	1 (0.21)	1 (0.31)
Zoropsidae	177 (0.39)	3 (0.09)	1 (0.04)	0	0	0	0	1 (0.10)	0	1 (0.17)	0	0	0	0	0	1 (0.21)	0
Dipluridae	188 (0.41)	2 (0.06)	0	0	0	0	0	0	0	0	0	0	1 (0.10)	2 (0.60)	1 (0.25)	0	2 (0.62)
Mysmenidae	137 (0.30)	2 (0.06)	1 (0.04)	0	0	0	0	1 (0.10)	0	1 (0.17)	2 (0.30)	0	0	0	0	0	0
Palpimanidae	139 (0.30)	2 (0.06)	0	0	0	0	0	0	0	0	0	0	1 (0.10)	2 (0.60)	1 (0.25)	0	1 (0.31)
Prodidomidae	309 (0.67)	2 (0.06)	0	0	0	0	0	0	0	0	0	0	1 (0.10)	0	2 (0.51)	0	0
Synaphridae	13 (0.03)	2 (0.06)	0	0	0	0	0	1 (0.10)	0	0	0	0	0	0	1 (0.25)	0	0
Theridiosomatidae	109 (0.24)	2 (0.06)	2 (0.08)	0	0	0	0	1 (0.10)	0	1 (0.17)	1 (0.15)	0	0	0	0	0	0
Cithaeronidae	8 (0.02)	1 (0.03)	0	0	0	0	0	0	0	0	0	0	0	0	1 (0.25)	0	0
Corinnidae	729 (1.59)	1 (0.03)	0	0	0	0	0	0	0	0	0	0	0	1 (0.30)	1 (0.25)	0	0
Ctenidae	503 (1.10)	1 (0.03)	1 (0.04)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptonetidae	279 (0.61)	1 (0.03)	1 (0.04)	0	0	0	0	0	0	1 (0.17)	0	0	0	0	0	0	0
Sicariidae	139 (0.30)	1 (0.03)	0	0	0	0	0	0	0	0	0	0	1 (0.10)	1 (0.30)	1 (0.25)	0	0
Total	45884	3374	2397	511	465	443	447	1016	292	581	669	141	996	334	394	479	322

* Percentage figures are given in parentheses.

Note. World spider fauna, after WSC (2016), only families found in the FSU are entered. Argyronetidae as Cybaeidae in the WSC; Cheiracanthiidae and Zoridae are not discarded as missing as separate families in the WSC, counted in Euthichuridae and Miturgidae, respectively.

Abbreviations. **Arm** — Armenia, **Az** — Azerbaijan, **Byel** — Byelorus(sia), **Est** — Estonia, **Gr** — Georgia, **Kaz** — Kazakhstan, **Kyrg** — Kyrgyzstan, **Latv** — Latvia, **Lith** — Lithuania, **Mold** — Moldova, **RF** — Russian Federation, **Taj** — Tajikistan, **Turk** — Turkmenistan, **Ukr** — Ukraine, **Uzb** — Uzbekistan.

Appendix 2. Spider families in the physiographic areas of the former Soviet Union

Family	A	B	V	G1	G2	D	E1	E2	Zh1	Zh2	Z+I	K	L	M	N+O	P	R	S1	S2	S3	S4	T1	T2	T3
Linyphiidae	2	250 (44.01)*	434 (31.43)	22 (88)	308 (38.55)	153 (28.18)	82 (15.24)	190 (18.52)	45 (18.67)	20 (8.10)	168 (18.26)	25 (5.97)	11 (5.26)	295 (41.26)	332 (49.26)	354 (33.88)	235 (57.32)	269 (59.25)	144 (58.06)	52 (63.41)	15 (75)	292 (33.56)	167 (46.13)	53 (30.81)
Gnaphosidae	0	43 (7.57)	179 (12.96)	1 (4)	73 (9.14)	29 (5.34)	65 (12.08)	115 (11.21)	28 (11.62)	33 (13.36)	124 (13.48)	63 (15.04)	46 (22.01)	57 (7.97)	46 (6.82)	116 (11.10)	28 (6.83)	26 (5.73)	10 (4.03)	3 (3.66)	0	65 (13.83)	13 (3.59)	7 (4.07)
Lycosidae	0	51 (8.98)	118 (8.54)	0	72 (9.01)	53 (9.76)	43 (7.99)	97 (9.45)	15 (6.22)	12 (4.86)	83 (9.02)	35 (8.35)	25 (11.96)	73 (10.21)	65 (9.64)	135 (12.92)	29 (7.07)	32 (7.05)	17 (6.85)	11 (13.41)	2 (10)	84 (9.66)	16 (4.42)	10 (5.81)
Salticidae	0	35 (6.16)	138 (9.99)	0	67 (8.39)	44 (8.10)	65 (12.08)	111 (10.82)	43 (17.84)	46 (18.62)	155 (16.85)	105 (25.06)	32 (15.31)	61 (8.53)	45 (6.68)	101 (9.67)	25 (6.10)	23 (5.07)	4 (1.61)	3 (3.66)	0	75 (8.62)	26 (7.18)	19 (11.05)
Thomisidae	0	24 (4.23)	75 (5.43)	0	49 (6.13)	30 (5.52)	42 (7.81)	75 (7.31)	15 (6.22)	26 (10.53)	67 (7.28)	31 (7.40)	22 (10.53)	42 (5.87)	39 (5.45)	60 (5.74)	16 (3.90)	13 (2.86)	10 (4.03)	0	0	54 (6.21)	21 (5.80)	13 (7.56)
Theridiidae	0	39 (6.87)	93 (6.73)	1 (4)	57 (7.13)	47 (8.66)	45 (8.36)	78 (7.60)	15 (6.22)	14 (5.67)	48 (5.22)	17 (4.06)	9 (4.31)	35 (4.90)	32 (4.48)	55 (5.26)	18 (4.39)	19 (4.19)	13 (5.24)	3 (3.66)	2 (10)	50 (5.75)	21 (5.80)	17 (9.88)
Araneidae	0	34 (5.99)	62 (4.49)	0	38 (4.76)	44 (8.10)	43 (7.99)	54 (5.26)	14 (5.81)	15 (6.07)	56 (6.09)	23 (5.49)	19 (9.09)	43 (6.01)	29 (4.06)	50 (4.78)	14 (3.41)	17 (3.74)	13 (5.24)	1 (1.22)	0	59 (6.78)	22 (6.08)	11 (6.40)
Philodromidae	0	12 (2.11)	45 (3.26)	0	26 (3.25)	14 (2.58)	23 (4.28)	34 (3.31)	13 (5.39)	8 (3.24)	32 (3.48)	21 (5.01)	15 (7,18)	27 (3.78)	23 (3.41)	50 (4.78)	14 (3.41)	14 (3.08)	6 (2.42)	1 (1.22)	0	32 (3.68)	10 (2.76)	5 (2.91)
Clubionidae	0	15 (2.64)	25 (1.81)	0	20 (2.50)	19 (3.50)	19 (3.53)	22 (2.14)	9 (3.73)	3 (1.21)	14 (1.52)	3 (0.72)	8 (3.83)	17 (2.38)	16 (2.37)	24 (2.30)	8 (1.95)	10 (2.20)	7 (2.82)	4 (4.88)	0	52 (5.98)	23 (6.35)	15 (8.72)
Dysderidae	0	0	11 (0.80)	0	0	6 (1.10)	11 (2.04)	56 (5.46)	11 (4.56)	5 (2.02)	8 (0.87)	9 (2.15)	0	0	0	0	0	0	0	0	0	0	0	0
Agelenidae	0	2 (0.35)	22 (1.59)	1 (4)	2 (0.25)	23 (4.24)	11 (2.04)	33 (3.22)	3 (1.24)	4 (1.62)	23 (2.50)	7 (1.67)	2 (0.96)	3 (0.42)	2 (0.30)	5 (0.48)	0	1 (0.22)	1 (0.40)	0	0	14 (1.61)	4 (1.10)	2 (1.16)
Dictynidae	0	16 (2.82)	37 (9.71)	0	24 (3.00)	17 (3.13)	12 (2.23)	18 (1.75)	6 (2.49)	4 (1.62)	21 (2.28)	7 (1.67)	4 (1.91)	17 (2.38)	14 (2.08)	30 (2.87)	12 (2.93)	13 (2.86)	8 (3.23)	0	0	13 (1.49)	5 (1.38)	1 (0.58)
Tetragnathidae	0	13 (2.29)	18 (1.30)	0	13 (1.63)	12 (2.21)	10 (1.86)	15 (1.46)	2 (0.83)	2 (0.81)	12 (1.30)	7 (1.67)	4 (1.91)	11 (1.54)	8 (1.19)	16 (1.53)	3 (0.73)	6 (1.32)	6 (2.42)	0	1 (5)	26 (2.99)	10 (2.76)	7 (4.07)
Zodariidae	0	0	8 (0.58)	0	1 (0.13)	2 (0.37)	2 (0.37)	8 (0.78)	3 (1.24)	3 (1.21)	14 (1.52)	6 (1.43)	1 (0.48)	0	0	0	0	0	0	0	0	0	0	0
Liocranidae	0	6 (1.06)	17 (1.23)	0	7 (0.88)	5 (0.92)	6 (1.12)	4 (0.39)	1 (0.41)	3 (1.21)	5 (0.54)	0	0	8 (1.12)	4 (0.59)	6 (0.57)	1 (0.24)	2 (0.44)	1 (0.40)	0	0	4 (0.46)	1 (0.27)	1 (0.58)
Hahniidae	0	6 (1.06)	9 (0.65)	0	6 (0.75)	5 (0.92)	2 (0.37)	7 (0.68)	0	0	8 (0.87)	0	0	6 (0.84)	4 (0.59)	6 (0.57)	2 (0.49)	3 (0.66)	2 (0.81)	2 (2.44)	0	7 (0.80)	6 (1.66)	1 (0.58)
Pholcidae	0	1 (0.18)	9 (0.65)	0	2 (0.25)	6 (1.10)	7 (1.30)	8 (0.78)	1 (0.41)	3 (1.21)	11 (1.20)	8 (1.91)	1 (0.48)	2 (0.28)	0	1 (0.10)	0	0	0	0	0	3 (0.34)	1 (0.27)	1 (0.58)
Cheiracanthiidae	0	3 (0.53)	13 (0.94)	0	6 (0.75)	6 (1.10)	7 (1.30)	9 (0.88)	1 (0.41)	3 (1.21)	7 (0.76)	7 (1.67)	1 (0.48)	2 (0.28)	2 (0.30)	7 (0.67)	0	0	2 (0.81)	0	0	3 (0.34)	2 (0.55)	0
Titanoecidae	0	2 (0.35)	13 (0.94)	0	4 (0.50)	1 (0.18)	4 (0.74)	8 (0.78)	0	4 (1.62)	6 (0.65)	5 (1.19)	2 (0.96)	2 (0.28)	2 (0.30)	7 (0.67)	2 (0.49)	2 (0.44)	0	0	0	3 (0.34)	0	0
Argyronetidae	0	1 (0.18)	1 (0.07)	0	1 (0.13)	1 (0.18)	1 (0.19)	3 (0.29)	1 (0.41)	3 (1.21)	4 (0.43)	3 (0.72)	0	1 (0.14)	1 (0.15)	1 (0.10)	0	1 (0.22)	0	0	0	2 (0.23)	4 (1.10)	2 (1.16)

Continued appendix 2

Family	A	B	V	G1	G2	D	E1	E2	Zh1	Zh2	Z+I	K	L	M	N+O	P	R	S1	S2	S3	S4	T1	T2	T3
Nesticidae	0	1 (0.18)	2 (0.14)	0	1 (0.13)	2 (0.37)	2 (0.37)	9 (0.88)	0	0	0	0	0	0	0	0	0	0	0	0	0	1 (0.11)	0	1 (0.58)
Nemesiidae	0	0	0	0	0	0	0	4 (0.39)	0	2 (0.81)	6 (0.65)	2 (0.48)	0	0	0	0	0	0	0	0	0	0	0	0
Amaurobiidae	0	1 (0.18)	6 (0.43)	0	1 (0.13)	4 (0.74)	2 (0.37)	7 (0.68)	0	0	0	1 (0.24)	1 (0.48)	0	1 (0.15)	2 (0.19)	1 (0.24)	1 (0.22)	0	0	0	1 (0.11)	1 (0.27)	2 (1.16)
Pisauridae	0	2 (0.35)	4 (0.29)	0	3 (0.38)	2 (0.37)	3 (0.56)	3 (0.29)	0	1 (0.40)	3 (0.33)	2 (0.48)	0	3 (0.42)	3 (0.45)	4 (0.38)	1 (0.24)	1 (0.22)	1 (0.40)	0	0	6 (0.69)	1 (0.27)	2 (1.16)
Phrurolithidae	0	1 (0.18)	4 (0.29)	0	2 (0.25)	1 (0.18)	2 (0.37)	3 (0.29)	2 (0.83)	2 (0.81)	4 (0.43)	0	0	1 (0.14)	0	5 (10.48)	0	0	0	1 (1.22)	0	5 (0.57)	1 (0.27)	0
Filistatidae	0	0	1 (0.07)	0	0	0	0	3 (0.29)	2 (0.83)	2 (0.81)	7 (0.76)	2 (0.48)	0	0	0	0	0	0	0	0	0	0	0	0
Oxyopidae	0	1 (0.18)	5 (0.36)	0	2 (0.25)	1 (0.18)	3 (0.56)	4 (0.39)	1 (0.41)	3 (1.21)	4 (0.43)	4 (0.95)	3 (1.44)	2 (0.28)	2 (0.30)	2 (0.19)	1 (0.24)	0	0	0	0	1 (0.11)	1 (0.27)	0
Mimetidae	0	2 (0.35)	6 (0.43)	0	3 (0.38)	3 (0.55)	5 (0.93)	4 (0.39)	1 (0.41)	2 (0.81)	2 (0.22)	1 (0.24)	0	2 (0.28)	2 (0.30)	2 (0.19)	0	1 (0.22)	1 (0.40)	1 (1.22)	0	4 (0.46)	0	0
Zoridae	0	4 (0.70)	7 (0.51)	0	6 (0.75)	4 (0.74)	3 (0.56)	7 (0.68)	2 (0.83)	2 (0.81)	3 (0.33)	0	0	2 (0.28)	1 (0.15)	2 (0.19)	0	0	2 (0.81)	0	0	1 (0.11)	1 (0.27)	0
Oecobiidae	0	0	2 (0.14)	0	0	0	0	6 (0.58)	0	2 (0.81)	2 (0.22)	2 (0.48)	0	0	0	0	0	0	0	0	0	0	0	0
Sparassidae	0	1 (0.18)	1 (0.07)	0	1 (0.13)	1 (0.18)	2 (0.37)	3 (0.29)	1 (0.41)	4 (1.62)	3 (0.33)	3 (0.72)	1 (0.48)	1 (0.14)	1 (0.15)	1 (0.10)	0	0	0	0	0	2 (0.23)	1 (0.27)	0
Hersiliidae	0	0	0	0	0	0	0	0	0	2 (0.81)	3 (0.33)	5 (1.19)	0	0	0	0	0	0	0	0	0	0	0	0
Trachelidae	0	0	1 (0.07)	0	0	0	2 (0.37)	2 (0.19)	0	0	0	1 (0.24)	0	0	0	0	0	0	0	0	0	3 (0.34)	0	0
Uloboridae	0	0	3 (0.22)	0	1 (0.13)	1 (0.18)	2 (0.37)	6 (0.58)	2 (0.83)	2 (0.81)	1 (0.11)	2 (0.48)	1 (0.48)	1 (0.14)	0	1 (0.10)	0	0	0	0	0	2 (0.23)	2 (0.55)	0
Anyphaenidae	0	1 (0.18)	2 (0.14)	0	0	1 (0.18)	1 (0.19)	3 (0.29)	1 (0.41)	1 (0.40)	0	0	0	0	0	0	0	0	0	0	0	0	1 (0.27)	1 (0.58)
Atypidae	0	0	3 (0.22)	0	1 (0.13)	1 (0.18)	1 (0.19)	1 (0.10)	0	1 (0.40)	0	0	0	0	0	0	0	0	0	0	0	2 (0.23)	0	0
Eresidae	0	0	1 (0.07)	0	1 (0.13)	0	2 (0.37)	3 (0.29)	1 (0.41)	1 (0.40)	2 (0.22)	2 (0.48)	1 (0.48)	1 (0.14)	0	2 (0.19)	0	0	0	0	0	1 (0.11)	0	0
Oonopidae	0	0	1 (0.07)	0	0	1 (0.18)	2 (0.37)	3 (0.29)	1 (0.41)	1 (0.40)	1 (0.11)	1 (0.24)	0	0	0	0	0	0	0	0	0	1 (0.11)	0	0
Scytodidae	0	0	1 (0.07)	0	0	1 (0.18)	1 (0.19)	2 (0.19)	1 (0.41)	2 (0.81)	3 (0.33)	2 (0.48)	0	0	0	0	0	0	0	0	0	0	0	0
Segestriidae	0	1 (0.18)	2 (0.14)	0	0	2 (0.37)	2 (0.37)	3 (0.29)	0	0	1 (0.11)	0	0	0	0	0	0	0	0	0	0	0	0	0

Continued appendix 2

Family	A	B	V	G1	G2	D	E1	E2	Zh1	Zh2	Z+I	K	L	M	N+O	P	R	S1	S2	S3	S4	T1	T2	T3
Ctenizidae	0	0	0	0	0	0	0	0	0	0	3 (0.33)	1 (0.24)	0	0	0	0	0	0	0	0	0	0	0	0
Zoropsidae	0	0	1 (0.07)	0	0	0	1 (0.19)	1 (0.10)	0	0	1 (0.11)	0	0	0	0	0	0	0	0	0	0	0	0	0
Dipluridae	0	0	0	0	0	0	0	0	0	1 (0.40)	2 (0.22)	1 (0.24)	0	0	0	0	0	0	0	0	0	0	0	0
Mysmenidae	0	0	0	0	0	0	1 (0.19)	2 (0.19)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Palpimanidae	0	0	0	0	0	0	0	0	0	1 (0.40)	2 (0.22)	1 (0.24)	0	0	0	0	0	0	0	0	0	0	0	0
Prodidomidae	0	0	0	0	0	0	0	0	0	1 (0.40)	0	2 (0.48)	0	0	0	0	0	0	0	0	0	0	0	0
Synaphridae	0	0	0	0	0	0	1 (0.19)	0	0	1 (0.40)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Theridiosomatidae	0	0	1 (0.07)	0	1 (0.13)	1 (0.18)	0	1 (0.10)	0	0	0	0	0	0	0	0	0	0	0	0	0	1 (0.11)	1 (0.27)	1 (0.58)
Cithaeronidae	0	0	0	0	0	0	0	0	0	0	0	1 (0.24)	0	0	0	0	0	0	0	0	0	0	0	0
Corinnidae	0	0	0	0	0	0	0	0	0	1 (0.40)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ctenidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1 (0.11)	0	0
Leptonetidae	0	0	0	0	0	0	0	1 (0.10)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sicariidae	0	0	0	0	0	0	0	0	0	1 (0.40)	1 (0.11)	1 (0.24)	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	568	1381	25	799	543	538	1026	241	247	920	419	209	715	674	1045	410	454	248	82	20	870	362	172

* Percentage figures are given in parentheses.

Regions: **A** — Atlantic-Arctic area, **B** — Fennoscandia, **V** — Russian Plain, **G1** — Novaya Zemlya, **G2** — Urals, **D** — Carpathians, **E1** — Crimea, **E2** — Caucasus, **Zh1** — Armenian Upland, **Zh2** — Kopet Dagh Mts, **Z+I** — Mountains of Middle (= Central) Asia, **K** — Deserts of Middle (= Central) Asia, **L** — Kazakhstan hills, **M** — West Siberia, **N+O** — Middle Siberia, **P** — Mountains of South Siberia, **R** — Northeastern Siberia, **S1** — Continental Far North-East, **S2** — Kamchatka, **S3** — N-Kuriles, **S4** — Commander Islands, **T1** — Continental southern Far East, **T2** — Sakhalin, **T3** — S-Kuriles.